

10th Class 2017

Math (Science)	Group-I	PAPER-II
Time: 20 Minutes	(Objective Type)	Max. Marks: 15

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1- An equation which remains unchanged when x is replaced by $\frac{1}{x}$ is called a / an:

- (a) Exponential equation
- (b) Reciprocal equation ✓
- (c) Radical equation
- (d) Quadratic equation

2- If α, β are the roots of $3x^2 + 5x - 2 = 0$, then $\alpha + \beta$ is:

- (a) $\frac{5}{3}$
- (b) $\frac{3}{5}$
- (c) $\frac{-5}{3}$ ✓
- (d) $\frac{-2}{3}$

3- Cube roots of -1 are:

- (a) $-1, -\omega, -\omega^2$ ✓
- (b) $-1, \omega, -\omega^2$
- (c) $-1, -\omega, \omega^2$
- (d) $1, -\omega, -\omega^2$

4- The fourth proportional w of $x : y :: v : w$ is:

- (a) $\frac{xy}{v}$
- (b) $\frac{vy}{x}$ ✓
- (c) xv
- (d) $\frac{x}{vy}$

5- If $a : b = x : y$, then alternando property is:

- (a) $\frac{a}{x} = \frac{b}{y}$ ✓
- (b) $\frac{a}{b} = \frac{x}{y}$
- (c) $\frac{a+b}{b} = \frac{x+y}{y}$
- (d) $\frac{a-b}{x} = \frac{x-y}{y}$

6- $\frac{3\pi}{4}$ radian = ----.

- (a) 115° (b) 150°
(c) 30° (d) 135° ✓

7- The set having only one element is called;

- (a) Null set (b) Power set
(c) Singleton set ✓ (d) Subset

8- If $A \subseteq B$, then $A - B$ is equal to:

- (a) A (b) B
(c) $B - A$ (d) \emptyset ✓

9- A frequency polygon is a many sided ----.

- (a) Closed figure ✓ (b) Rectangle
(c) Circle (d) Square

10- $\sec^2 \theta = \dots$

- (a) $1 - \sin^2 \theta$ (b) $1 + \tan^2 \theta$ ✓
(c) $1 + \cos^2 \theta$ (d) $1 - \tan^2 \theta$

11- Radii of a circle are:

- (a) Double of the diameter
(b) All unequal
(c) Half of any chord (d) All equal ✓

12- A tangent line intersects the circle at ----.

- (a) Three points (b) Two points
(c) Single point ✓ (d) Four points

13- The arcs opposite to incongruent central angles of a circle are always ----.

- (a) Congruent (b) Parallel
(c) Perpendicular (d) Incongruent ✓

14- The length of the diameter of a circle is how many times the radius of the circle?

- (a) 1 (b) 2 ✓
(c) 3 (d) 4

15- The tangent and radius of a circle at the point of contact are ----.

- (a) Parallel (b) Not perpendicular
(c) Perpendicular ✓ (d) Not parallel